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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/766,066	01/28/2004	John Calvin Mann	67010-074; H2678-SS	2413
26096	7590	09/01/2006	EXAMINER	
CARLSON, GASKEY & OLDS, P.C. 400 WEST MAPLE ROAD SUITE 350 BIRMINGHAM, MI 48009			SMITH, NICHOLAS A	
			ART UNIT	PAPER NUMBER
			1742	

DATE MAILED: 09/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/766,066

Applicant(s)

MANN, JOHN CALVIN

Examiner

Nicholas A. Smith

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/28/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

Claims 1-19 remain for examination.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 8-10, 13-14, 16 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by de Nora (US Patent 4,792,388).

De Nora discloses an electrochemical cell structure comprising a first fluid chamber (**11**, Fig. 4 and col. 9, lines 15-16), an opening for permitting communication of a fluid into said fluid chamber from one of a cathode cavity (**14** within **5**, Fig. 4 and col. 9, lines 45-50), and a resilient member disposed inside a first fluid chamber (**13**, Fig. 4 and col. 9, lines 15-19).

In regards to claim 2, De Nora discloses a first fluid chamber in fluid communication with a cathode cavity through an opening and contains an anode cavity (De Nora, Fig. 4).

In regards to claim 3, De Nora discloses a resilient member urging said cathode and anode cavities together (Fig. 4 and col. 9, lines 20-27).

In regards to claim 4, De Nora discloses an electrochemically conductive medium between an anode and a cathode cavity (**5**, Fig. 4 and col. 9, lines 31-37).

In regards to claim 5, De Nora discloses a resilient member that comprises a metallic spring (Fig. 4, col. 4, lines 27-41).

In regards to claim 6, De Nora discloses a wave spring having a first peak, a second peak and a valley spaced between those peaks (**13a**, Fig. 7).

In regards to claim 8, De Nora discloses an electrically conductive resilient member (col. 4, lines 17-26).

In regards to claim 9, de Nora discloses an anode cavity with a first area and a cathode cavity with a second area and first area and first and second area in fluid communication (Fig. 4, col. 1, lines 34-40 and col. 9, lines 40-50).

In regards to claim 10, De Nora discloses biasing an area of an anode (**7**, Fig. 1) and an area of a cathode (**14**, Fig. 1) towards each other via a resilient member (col. 10, lines 26-42).

In regards to claim 13, De Nora discloses a spring (De Nora, **13**, Fig. 4), a spring frame (De Nora, **12** and **13** in combination, Fig. 4) for positioning a spring relative to a cathode cavity (De Nora, **14**, Fig. 4) with at least one spring frame opening (De Nora, volume between bottom portions of **12**, Fig. 4) for permitting fluid through spring frame (De Nora, volume **11** inside **12**, Fig. 4).

In regards to claim 14, De Nora discloses a first member (row one of Fig. 2, for instance) and a second member (row two of Fig. 2, for instance) that are spaced and thus defining a spring frame opening.

In regards to claim 16, De Nora discloses a wave spring having a first peak, a second peak and a valley spaced between those peaks (Fig. 7).

In regards to claim 18, De Nora discloses a spring and a spring frame (as in claim 13) that are electrically conductive (De Nora, col. 4, lines 17-26).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7, 11-12, 15, 17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over de Nora.

In regards to claim 7, while De Nora does not specifically teach a concentric array of wave springs, De Nora does teach several types of arrays of wave springs that are designed to cover a rectangular or square area (Fig. 1-4 and Fig. 6-7). One of ordinary skill in the art would be able to construct a circular array of wave springs to cover a circular area just as De Nora covers a rectangular or square area with an array of wave springs.

In regards to claim 11, De Nora does not specifically teach the use of a second resilient member positioned in a second fluid chamber in fluid communication with an anode cavity.

De Nora does teach the use of a resilient member positioned in a fluid chamber in fluid communication with an anode cavity (col. 13, lines 32-35). It would have been obvious to one of ordinary skill in the art to combine De Nora's apparatus with one resilient member on a cathode cavity with De Nora's resilient member on an anode

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cavity in order to maintain multiple points of anode contact in a small fashion (col. 13, lines 54-59).

In regards to claim 12, De Nora (as in claim 11) teaches each resilient member would provide a spring force in opposite directions in that the anode and cathode cavity are on opposite sides.

In regards to claims 15 and 17, see reasons above stated for claim 7.

In regards to claim 19, claim 19 contains the limitations of claims 1-2, 4 and 11-12 and therefore De Nora is applied to claim 19 for same reasons as stated above for claims 1-2, 4 and 11-12.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicholas A. Smith whose telephone number is (571)-272-8760. The examiner can normally be reached on 8:30 AM to 5:00 PM, Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571)-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


ROY KING
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700